# **ANDREW SEOHWAN YU**

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## **EDUCATION**

**Case Western Reserve University** 

• PhD in Computer Science

Cleveland, OH

2021-Present

**Cleveland State University** 

• Master of Computer and Information Sciences

• Thesis: NBA Basketball Analytics with ML

• Magna Cum Laude, GPA 3.61/4.00

Cleveland, OH

2014-2017

**Kent State University** 

• Bachelor of Science, Integrated Life Sciences

• Magna Cum Laude, GPA 3.74/4.00

Kent, OH 2009-2011

## RESEARCH

Advisor: Xiaojuan Li

**Cleveland Clinic, Lerner Research Institute** 

Cleveland, OH

2021-Present

• Unsupervised segmentation of musculoskeletal lesions in MRIs using anomaly detection

• Quantitative medical imaging and radiomics to find biomarkers for osteoarthritis

#### **Case Western Reserve University**

Cleveland, OH

Advisor: Vipin Chaudhary

2021-Present

- Comparison and evaluation of generative models (diffusion models, GANs, VAEs)
- Fine-tuning foundational generative models for small-domain tasks

#### **Cleveland State University**

Cleveland, OH

Advisor: Sunnie Chung

2016-17

• NBA basketball play prediction using real-time player and ball position data and machine learning

## **PUBLICATIONS**

Inpainting MRI for unsupervised knee bone marrow edema-like lesion segmentation using conditional diffusion models, Andrew Seohwan Yu, Richard Lartey, William Holden, Ahmet Hakan Ok, Jeehun Kim, Carl Winalski, Naveen Subhas, Vipin Chaudhary, and Xiaojuan Li, to be presented at the Society of Photo-Optical Instrumentation Engineers (SPIE) Imaging Informatics for Healthcare, Research, and Applications, San Diego, February 20, 2024

Novel Unsupervised Segmentation of Bone Marrow Edema-Like Lesions using Bayesian Conditional Generative Adversarial Networks, Andrew Seohwan Yu, Sibaji Gaj, William Holden, Richard Lartey, Jeehun Kim, Carl Winalski, Naveen Subhas, and Xiaojuan Li, Proceedings of the International Society for Magnetic Resonance in Medicine, (ISMRM) Scientific Meeting and Exhibition, ISSN 1545-4428 (Online), May 19, 2023

Empirical Study: Temporal and Spatial Feature Processing Methods for Prediction of NBA Basketball Plays for Sports Analytics, Sun Sunnie Chung and Andrew Yu. Accepted to International Journal of Networked and Distributed Computing (IJNDC), Vol 7: Issue 3, ISSN Print: 2211-7938, ISSN Online: 2211-7946, July 2019

Automatic Identification and Analysis of Basketball Plays: NBA On-Ball Screens, Andrew Yu and Sun Sunnie Chung, in the Proceedings of the 4th IEEE International Conference on Big Data, Cloud Computing and Data Science Engineering, Honolulu, May 2019

# **TEACHING**

Pennsylvania State University	Erie, PA
Full-time instuctor	2017-2021
<ul> <li>Artificial Intelligence (Python)</li> </ul>	Spring 2021
<ul> <li>Technical Game Development (Unreal Engine 4)</li> </ul>	Spring 2021
<ul> <li>Game Development Project (Unreal Engine 4)</li> </ul>	Fall 2020
<ul> <li>Applications Programming (Android, Kotlin)</li> </ul>	Spring 2020
<ul> <li>Operating Systems and Programming (C, UNIX)</li> </ul>	Fall 2017-Spring 2019
<ul> <li>Introduction to Programming Techniques (C++)</li> </ul>	Fall 2017-Summer 2021

### **Cleveland State University**

- Graduate Teaching Assistant
   Introduction to Engineering Design (C, Arduino)
  - o Introduction to Programming (Java)

### Cleveland, OH

2016-17 Spring 2017 Fall 2016